

# Kuskokwim River Salmon Assessment Update: 6/14/2017

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This document presents the key assessment information considered by managers in-season. The production of this document is a collaborative effort between the ADF&G and USFWS. **All data and analyses contained are preliminary and are subject to change, so please make interpretations carefully.**

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## Abbreviations:

- BTF: Bethel Test Fishery
- ATF: Aniak Test Fishery
- CPUE: Catch-per-unit-effort
- EOS: End-of-Season

**To view escapement information, please visit the ADF&G Kuskokwim River Fish Counts page:**

- <http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakuskokwim.salmon#fishcounts>

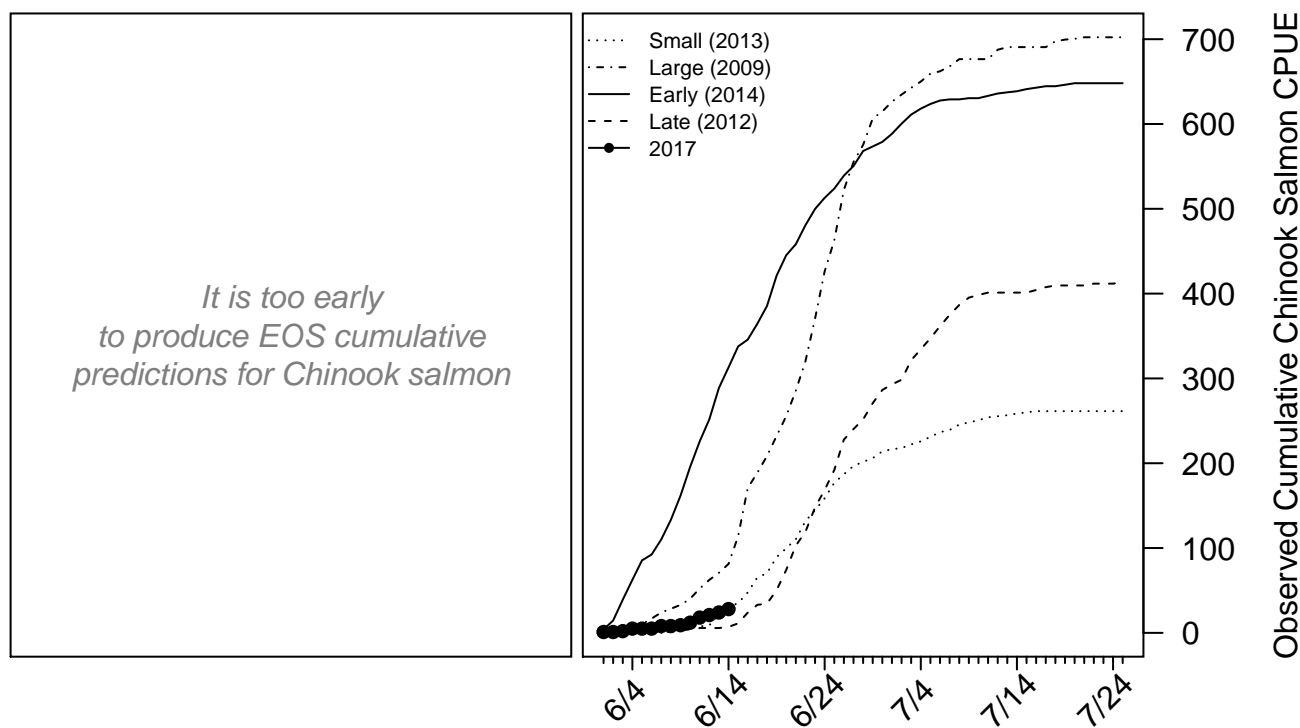
**For the most up-to-date information regarding fishing opportunities please visit:**

- **USFWS:** [https://www.fws.gov/refuge/yukon\\_delta/wildlife\\_and\\_habitat/dailyupdate.html](https://www.fws.gov/refuge/yukon_delta/wildlife_and_habitat/dailyupdate.html)
- **ADF&G:** [http://www.adfg.alaska.gov/index.cfm?adfg=cfnews\\_mobile.main](http://www.adfg.alaska.gov/index.cfm?adfg=cfnews_mobile.main)

## Chinook Salmon (6/14)

- The BTF daily CPUE was **4**.
- The BTF cumulative CPUE is **28**.
- **11%** years since 2008 fell below this cumulative CPUE.
- **18%** of the run is complete based on historical average run timing.
- **22%** of the run is complete based on a preliminary run timing forecast (official forecast will be available soon).
- Late run scenarios are considered highly unlikely at this time due to the preliminary timing forecast (1.4 days early).
- **17 - 22%** of the run is expected to pass in the next 5 days.
- Over the last 3 days, Chinook salmon made up **16%** of the BTF catches, compared to **37%** on average.

**Chinook Salmon Figure 1.** *Left:* will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right:* The cumulative BTF CPUE from 2017 plotted along with four previous years intended to represent a range of early/late and small/large index values.

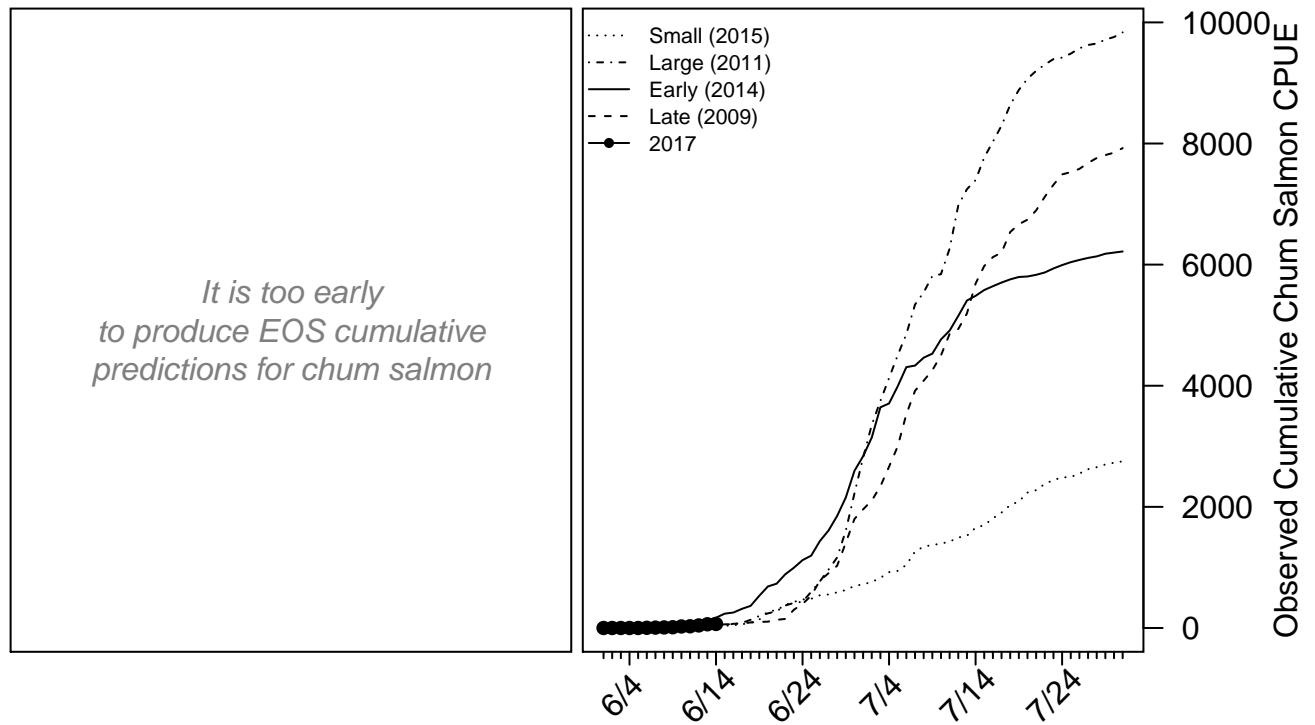


For more detailed information, see the Chinook salmon appendix at the end of this document.

## Chum Salmon (6/14)

- The BTF daily CPUE was **6**.
- The BTF cumulative CPUE is **67**.
- **89%** years since 2008 fell below this cumulative CPUE.
- **3%** of the run is complete based on historical average run timing.
- No run timing forecast is available for chum salmon.
- **3 - 5%** of the run is expected to pass in the next 5 days.
- Over the last 3 days, chum salmon made up **61%** of the BTF catches, compared to **37%** on average.

**Chum Figure 1.** *Left:* will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right:* The cumulative BTF CPUE from 2017 plotted along with four years intended to represent a range of early/late and small/large index values.

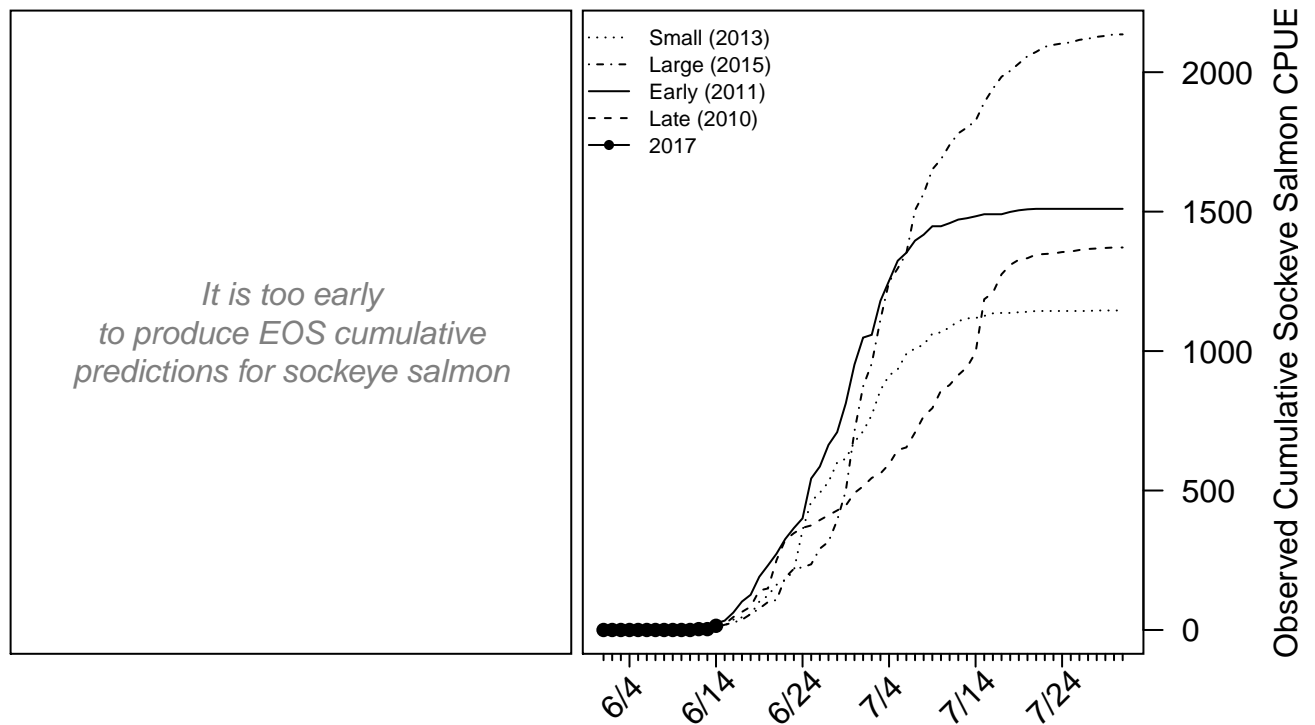


For more detailed information, see the chum salmon appendix at the end of this document.

## Sockeye Salmon (6/14)

- The BTF daily CPUE was **12**.
- The BTF cumulative CPUE is **15**.
- **78%** years since 2008 fell below this cumulative CPUE.
- **3%** of the run is complete based on historical average run timing.
- No run timing forecast is available for sockeye salmon.
- **4 - 12%** of the run is expected to pass in the next 5 days.
- Over the last 3 days, sockeye salmon made up **23%** of the BTF catches, compared to **26%** on average.

**Sockeye Figure 1.** *Left:* will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right:* The cumulative BTF CPUE from 2017 plotted along with four years intended to represent a range of early/late and small/large index values.

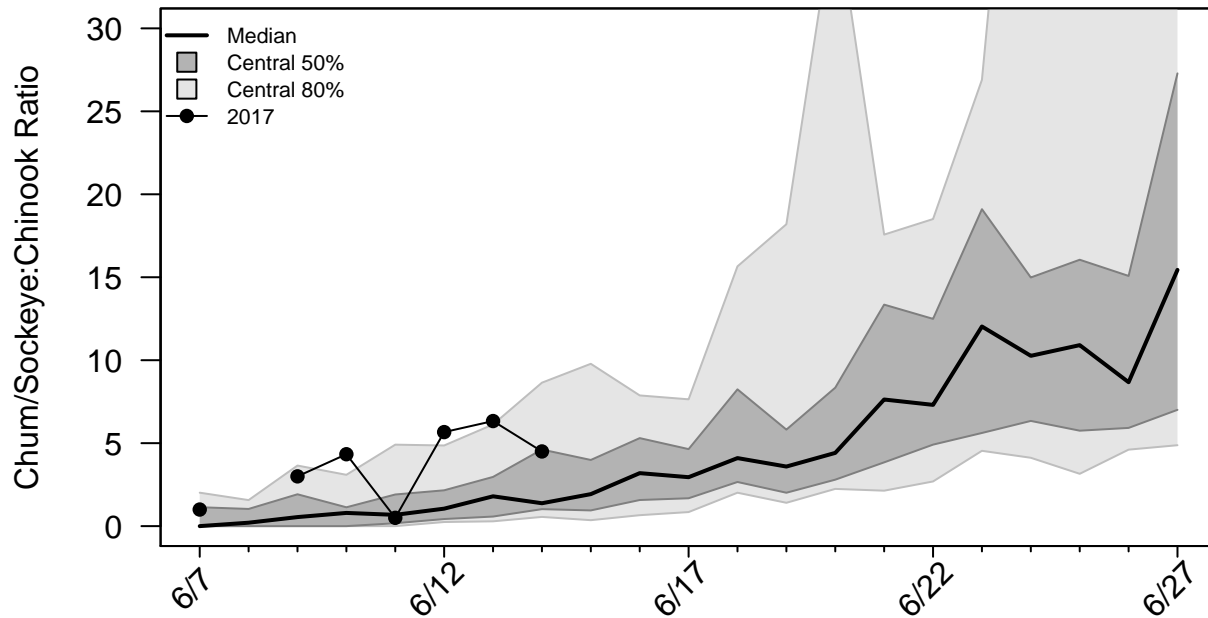


For more detailed information, see the sockeye salmon appendix at the end of this document.

## Chum/Sockeye:Chinook Salmon Ratio

This ratio is calculated by dividing the total number of chum and sockeye salmon counted by the number of Chinook salmon counted by a project. A value of zero indicates Chinook salmon were counted, but not chum or sockeye salmon. A missing value on a day the project operated indicates no Chinook salmon were counted.

**Ratio Figure 1.** Time series of the species ratio with historical quantiles shown as grey regions and the ratio time series for 2017 shown with points connected by lines.



**Ratio Table 1.** A subset of the species ratios displayed in **Ratio Figure 1**, including the ratios from the sonar project and ATF.

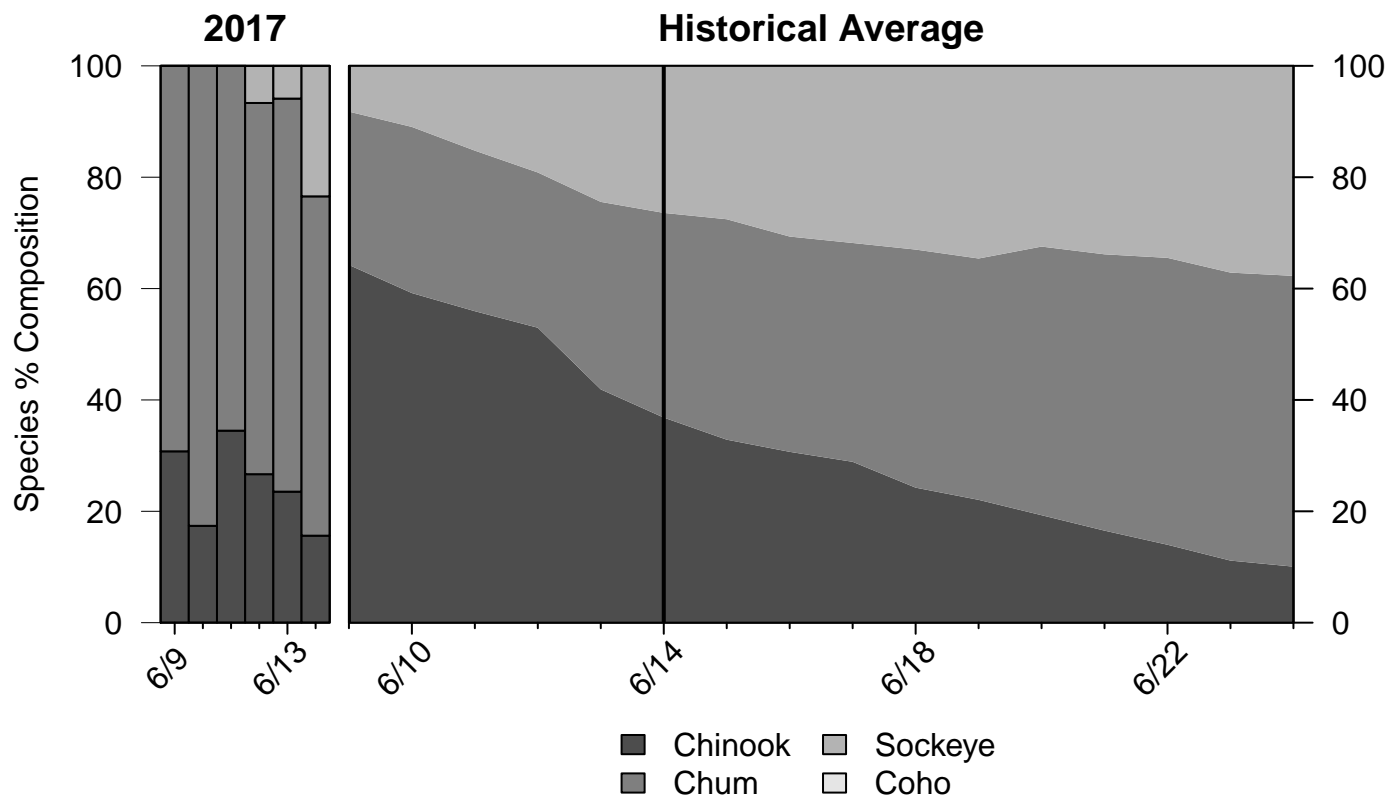
Date	2017 BTF	BTF Median	BTF Lower 10%	BTF Upper 10%	2017 Sonar	2017 ATF
6/11	0.5	0.68	0	4.91		1
6/12	5.67	1.05	0.25	4.86		0.54
6/13	6.33	1.8	0.29	6.13		0.15
6/14	<b>4.5</b>	<b>1.38</b>	<b>0.55</b>	<b>8.65</b>		<b>0.21</b>
6/15		1.93	0.36	9.78		
6/16		3.19	0.66	7.88		
6/17		2.95	0.85	7.64		

**Ratio Table 2.** The probability that a given species ratio will be exceeded by a certain day in the BTF (calculated based on all previous years: 1984 - 2016).

Date	Ratio > 1	Ratio > 3	Ratio > 5	Ratio > 10	Ratio > 20
6/11	0.79	0.45	0.18	0.03	0.03
6/12	0.82	0.45	0.24	0.03	0.03
6/13	0.88	0.52	0.33	0.06	0.03
6/14	<b>0.91</b>	<b>0.67</b>	<b>0.42</b>	<b>0.09</b>	<b>0.03</b>
6/15	0.94	0.76	0.48	0.18	0.03
6/16	0.94	0.79	0.52	0.21	0.06
6/17	0.97	0.82	0.55	0.24	0.06

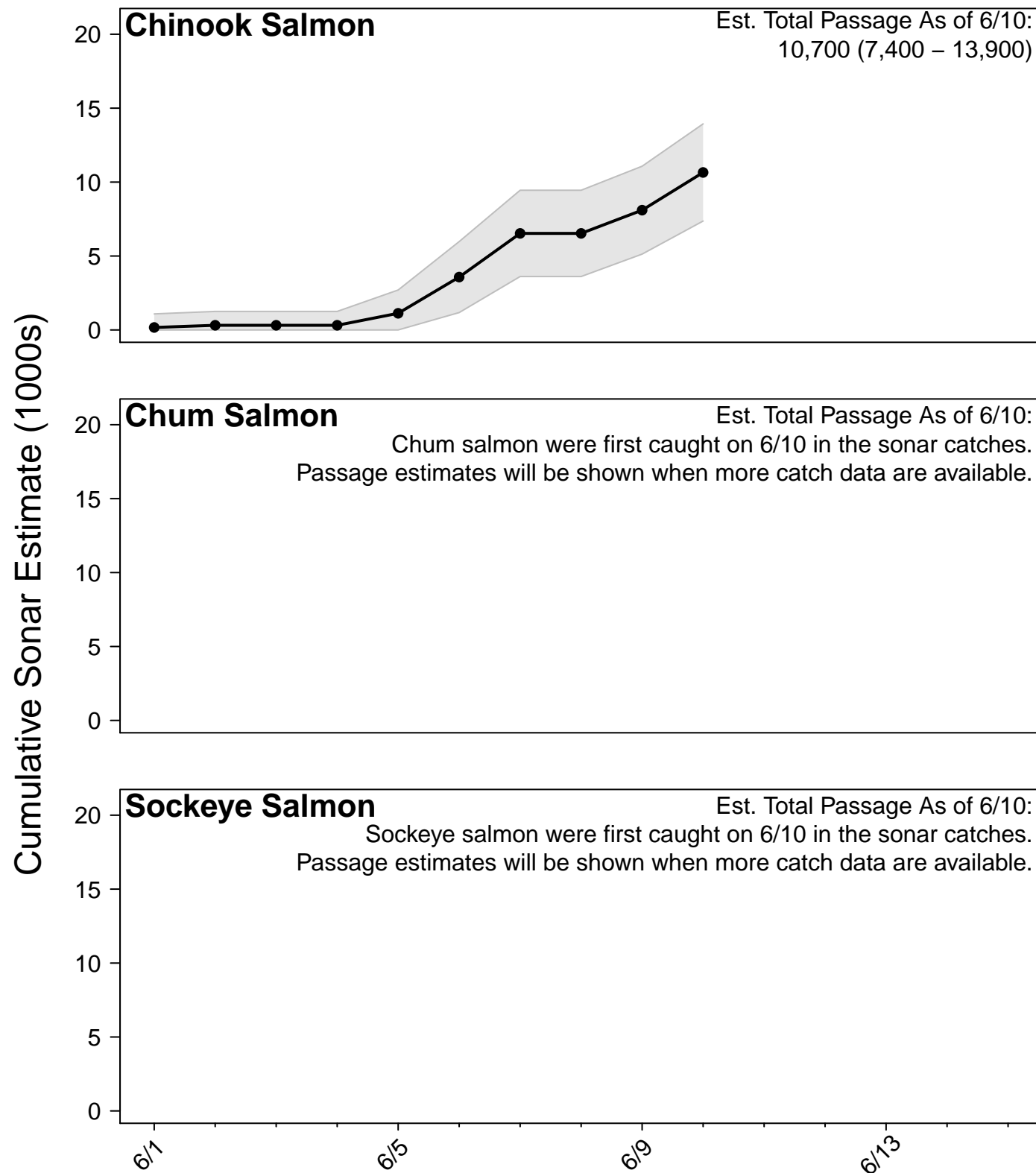
## Species Composition

**Species Composition Figure 1.** Species percent composition in the BTF from 2017 and based on historical average. The composition presented on each day represents the average composition over the past 3 days.



## Sonar

**Sonar Figure 1.** Cumulative estimates of salmon passage from the 2017 sonar operation through the last complete reporting day. Grey bands show the 95% confidence intervals on each complete reporting day. The sonar project began partial operations on June 1 and full operations on June 3.



# Chinook Salmon Appendix

**Chinook Salmon Table A1.** Cumulative CPUE from the BTF.

Date	2017	2016	2015	2014	2013	5-Yr Avg.	2008 - 2016 Avg.
<b>6/11</b>	18	144	104	226	8	97	75
<b>6/12</b>	21	165	117	252	9	109	84
<b>6/13</b>	24	175	132	289	21	124	97
<b>6/14</b>	<b>28</b>	<b>196</b>	<b>144</b>	<b>313</b>	<b>31</b>	<b>138</b>	<b>109</b>
<b>6/15</b>		218	164	338	35	153	129
<b>6/16</b>		230	192	346	48	168	153
<b>6/17</b>		245	216	365	65	185	171
<b>EOS</b>		687	625	650	261	528	557

**Chinook Salmon Table A2.** Cumulative CPUE from the ATF.

Date	2017	2016	2015
<b>6/11</b>	131	659	186
<b>6/12</b>	186	724	256
<b>6/13</b>	238	731	293
<b>6/14</b>	<b>307</b>	<b>867</b>	<b>382</b>
<b>6/15</b>		971	449
<b>6/16</b>		1,076	519
<b>6/17</b>		1,149	684
<b>EOS</b>		2,729	2,916

**Chinook Salmon Table A3.** Percent of run complete according to various historical run timing scenarios and the preliminary 2017 run timing forecast (with forecast uncertainty).

Timing	Historical Midpoint	Historical 6/14 Cumulative %	Forecasted Midpoint	Forecasted 6/14 Cumulative %
<b>Earliest</b>	6/15	44%	6/15	45%
<b>Early 10%</b>	6/18	32%	6/17	36%
<b>Early 25%</b>	6/21	24%	6/19	29%
<b>Median</b>	6/23	18%	6/21	22%
<b>Late 25%</b>	6/24	14%	6/23	15%
<b>Late 10%</b>	6/26	11%	6/25	11%
<b>Latest</b>	7/3	1%	6/27	7%



# Chum Salmon Appendix

**Chum Salmon Table A1.** Cumulative CPUE from the BTF.

Date	2017	2016	2015	2014	2013	5-Yr Avg.	2008 - 2016 Avg.
<b>6/11</b>	28	22	18	76	0	25	20
<b>6/12</b>	42	22	21	105	0	31	25
<b>6/13</b>	61	25	24	125	4	39	31
<b>6/14</b>	<b>67</b>	<b>36</b>	<b>26</b>	<b>169</b>	<b>4</b>	<b>52</b>	<b>41</b>
<b>6/15</b>		44	35	236	14	71	61
<b>6/16</b>		52	45	255	37	83	78
<b>6/17</b>		52	61	316	48	104	99
<b>EOS</b>		4,001	2,945	6,343	5,708	5,178	6,508

**Chum Salmon Table A2.** Cumulative CPUE from the ATF.

Date	2017	2016	2015
<b>6/11</b>	61	19	40
<b>6/12</b>	91	27	40
<b>6/13</b>	98	27	49
<b>6/14</b>	<b>106</b>	<b>49</b>	<b>66</b>
<b>6/15</b>		72	66
<b>6/16</b>		80	81
<b>6/17</b>		105	97
<b>EOS</b>		5,304	5,669

**Chum Salmon Table A3.** Percent of run complete according to various historical run timing scenarios.

Timing	Midpoint	6/14 Cumulative %
<b>Earliest</b>	6/24	12%
<b>Early 10%</b>	7/1	6%
<b>Early 25%</b>	7/3	4%
<b>Median</b>	7/6	3%
<b>Late 25%</b>	7/7	2%
<b>Late 10%</b>	7/10	1%
<b>Latest</b>	7/12	1%

# Sockeye Salmon Appendix

**Sockeye Salmon Table A1.** Cumulative CPUE from the BTF.

Date	2017	2016	2015	2014	2013	5-Yr Avg.	2008 - 2016 Avg.
<b>6/11</b>	0	3	8	21	0	6	5
<b>6/12</b>	3	3	11	36	0	10	8
<b>6/13</b>	3	3	11	42	3	12	11
<b>6/14</b>	<b>15</b>	<b>6</b>	<b>11</b>	<b>78</b>	<b>6</b>	<b>20</b>	<b>16</b>
<b>6/15</b>		6	19	97	15	27	27
<b>6/16</b>		6	27	108	37	36	41
<b>6/17</b>		9	37	115	45	44	52
<b>EOS</b>		2,447	2,157	1,367	1,146	1,658	1,601

**Sockeye Salmon Table A2.** Cumulative CPUE from the ATF.

Date	2017	2016	2015
<b>6/11</b>	0	0	0
<b>6/12</b>	0	0	0
<b>6/13</b>	0	0	0
<b>6/14</b>	<b>7</b>	<b>0</b>	<b>0</b>
<b>6/15</b>		0	0
<b>6/16</b>		0	0
<b>6/17</b>		0	0
<b>EOS</b>		405	1,245

**Sockeye Salmon Table A3.** Percent of run complete according to various historical run timing scenarios.

Timing	Midpoint	6/14 Cumulative %
<b>Earliest</b>	6/23	16%
<b>Early 10%</b>	6/24	9%
<b>Early 25%</b>	6/26	6%
<b>Median</b>	6/28	3%
<b>Late 25%</b>	6/30	2%
<b>Late 10%</b>	7/3	1%
<b>Latest</b>	7/11	0%